

Title (en)

Quick-mounting clip for automobile heat-exchangers.

Title (de)

Schnellmontageclip für Wärmetauscher an Kraftfahrzeugen.

Title (fr)

Dispositif d'assemblage rapide par encliquetage pour échangeurs de chaleur de véhicules automobiles.

Publication

EP 0452172 A1 19911016 (FR)

Application

EP 91400695 A 19910314

Priority

FR 9004017 A 19900329

Abstract (en)

Mounting clip for securing a first connection part (3) for the inlet or outlet of a water tank (1) belonging to a heat exchanger (2) and a second connection part (4) joined to one end of a flexible hose (5) of a coolant circuit. This mounting clip comprises a locking ring (10) which has at least two radial spurs (8) designed to click into place in corresponding housings (18, 19) formed in the two abovementioned connection parts (4, 3) when they are fitted together. This ring also has between each pair of consecutive spurs (8) an extensible portion equipped with means for displaying the state, deformed or not deformed, of the ring (10). This clip also comprises means for releasing said ring (10). Application to the mounting of heat exchangers on cooling circuits in motor vehicles. <IMAGE>

IPC 1-7

F16L 37/10

IPC 8 full level

F16L 37/10 (2006.01); **F28F 9/04** (2006.01)

CPC (source: EP)

F16L 37/101 (2013.01); **F28F 9/0246** (2013.01); **F28F 9/0258** (2013.01)

Citation (search report)

- [A] FR 2015349 A1 19700424 - BUSSELMEIER OTTO
- [A] US 4881760 A 19891121 - RUNKLES RICHARD R [US], et al

Cited by

EP2249073A1; EP1821022A1; FR2897668A1; DE19756987A1; DE19756987C2; EP2990708A1; EP0568890A1; US5322329A; FR3022321A1; DE102007042868A1; US8419076B2

Designated contracting state (EPC)

DE ES GB IT SE

DOCDB simple family (publication)

EP 0452172 A1 19911016; EP 0452172 B1 19940427; DE 452172 T1 19921105; DE 69101804 D1 19940601; DE 69101804 T2 19940811; ES 2032375 T1 19930216; ES 2032375 T3 19940701; FR 2660405 A1 19911004; FR 2660405 B1 19920724

DOCDB simple family (application)

EP 91400695 A 19910314; DE 69101804 T 19910314; DE 91400695 T 19910314; ES 91400695 T 19910314; FR 9004017 A 19900329